DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-007452
Date Inspected: 16-Jun-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Oregon Iron Works Clackamas, Or.

OSM Arrival Time: 1700
OSM Departure Time: 130
Location: Clackamas, Oregon

CWI Name:	Steve Barnett			**CWI Present:**	☑ Yes	☐ No		
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: Hinge K Pipe Beams

Summary of Items Observed:

OIW Fabrication Shop-Bay 1:
QA Inspector Brannon observed no production activity on Hinge K Pipe Beam sub assemblies noted below for the duration of the shift.
Hinge-K Pipe Beam Sub Assembly, cap plates MK#109.

OIW Fabrication Shop-Bay 3 (sub-assembly):
QA Inspector Brannon randomly observed OIW qualified welder Mr. Mikhail Bannikov ID#B28 welding fill pass's joining radical stiffener MK #b108 (HPS 485 W) to tubular forging MK# a111-4 (A508 Gr. 4N Class 2) for hinge k pipe beam base assembly section a102-4. The partial joint penetration (PJP) groove weld is identified as weld joint #W1-140. Mr. Bannikov was observed welding in the 1G (flat) position utilizing submerged arc welding (SAW) process with a 2.4mm diameter electrode, filler metal brand Lincoln Electric LA85 class F9A4-Eni5-G-H2. QA Inspector Brannon observed the OIW QC CWI Inspector Mr. Steve Barnett verifying that the pre-heat of 350°F and welding parameters were in accordance with the Welding Procedure Specification (WPS). Welding parameters measured by QA are as follows for root/fill: 567 amps, 34.5 volts and a travel speed of 431mm per minute appear to be in conformance with approved welding procedure specification WPS 4016 revision number 1.

OIW Fabrication Shop-Bay 3 (sub-assembly):
QA Inspector Brannon randomly observed OIW qualified welder Mr. Liam Bui ID#B10 welding fill pass's joining radical stiffener MK #c107 (HPS 485 W) to vertical stiffener MK#a107 (HPS 485 W) for hinge k pipe beam base assembly section a102-4. The partial joint penetration (PJP) groove weld is identified as weld joint #W1-119. Mr.

Bui was observed welding in the 1G (flat) position utilizing submerged arc welding (SAW) process with a 2.4mm diameter electrode, filler metal brand Lincoln Electric LA85 class F9A4-Eni5-G-H2. QA Inspector Brannon observed the OIW QC CWI Inspector Mr. Steve Barnett verifying that the pre-heat of 350°F and welding parameters were in accordance with the Welding Procedure Specification (WPS). Welding parameters measured by QA are as follows for root/fill: 583 amps, 34.2 volts and a travel speed of 430mm per minute respectively appear to be in conformance with approved welding procedure specification WPS 4020 revision number 1.

QC/QA Inspection (VT/MT):
QA Inspector Brannon observed QC Inspector Mr. Steve Barnett perform visual inspection (VT) and magnetic particle testing (MT) cover pass's at hinge k pipe beam fuse section a124-15 (HPS 485 W) ring stiffener MK#a125 weld joints WM3-12 ~ WM3-17 partial joint penetration (PJP) weld. QA Inspector Brannon also, performed visual inspection (VT) and magnetic particle testing (MT) cover pass's at hinge k pipe beam fuse section a124-15 (HPS 485 W) ring stiffener MK#a125 weld joints WM3-12 ~WM3-17 partial joint penetration (PJP) weld. See Caltrans Magnetic Particle Test Report, TL-6028 dated June 16, 2009 for additional information.

OIW Fabrication Shop-Bay 3 (sub-assembly):
QA Inspector Brannon observed no production activity on Hinge K Pipe Beam sub assemblies noted below for the duration of the shift.
Hinge-K Pipe Beam Base Assembly, MK#102A-1 - MK#a111-1 forging to MK#a110-1 base plate idle.
Hinge-K Pipe Beam Sub Assembly, Half fuse section MK#a124-15.
Hinge-K Pipe Beam Sub Assembly, Half fuse section MK#a124-5.
Hinge-K Pipe Beam Sub Assembly, Half fuse section MK#a124-16.
Note: QA Inspector Brannon also, observed pending CWR repair for MK#102A-1 weld joint W2-13 and MK#120A-4 weld joint W2-13 both have pending 1st time UT repairs.

OIW Fabrication Shop-Bay 6 (sub-assembly):
QA Inspector Brannon randomly observed OIW qualified welder Vincent Vu ID#V7 and one helper welding soudotape 309L stainless steel overlay to hinge k pipe beam fuse sub-assembly 120A-4. The weld joint is identified as 309L 1st layer. Mr. Vu was observed welding in the flat position utilizing automatic electro slag welding (ESW) overlay process with a .5mm x 60mm soudotape 309L stainless electrode, filler metal brand Soudotape class EQ309L automatic. QA Inspector Brannon observed the OIW QC CWI Inspector's Mr. Steve Barnett and Mr. Jon Nickolich verifying that the pre-heat of 100°C and welding parameters were in accordance with Welding Procedure Specification (WPS). Welding parameters observed by QA Inspector Brannon are as follows: 1225 amps, 25.6 volts and a travel speed of 267mm per minute appear to be in conformance with approved welding procedure specification (WPS 7003) revision number 0.

OIW Fabrication Shop-Bay 6 (sub-assembly):
QA Inspector Brannon observed no production activity on Hinge K Pipe Beam sub assemblies noted below for the duration of this shift.
Hinge-K Pipe Beam Sub Assembly, MK#120A-1 – MK#a124-6 half fuse to MK#a124-7 half fuse.

OIW Storage Yard
Hinge-K Pipe Beam Base Assembly, MK#102A-2 - MK#a111-2 forging to MK#a110-2 base plate idle.
Hinge-K Pipe Beam Base Assembly, MK#102A-3 - MK#a111-3 forging to MK#a110-3 base plate idle.

Hinge-K Pipe Beam Sub Assembly, MK#120A-3 – MK#a124-10 half fuse to MK#a124-12 half fuse with stainless steel overlay.
Hinge-K Pipe Beam Sub Assembly, MK#120A-2 – MK#a124-3 half fuse to MK#a124-11 half fuse.
Hinge-K Pipe Beam Sub Assembly, MK#120A-6 – MK#a124-9 half fuse to MK#a124-1 half fuse.
Hinge-K Pipe Beam Sub Assembly, Half fuse section MK#a124-8.
Note: QA Inspector Brannon also, observed pending repairs for MK#102A-2 weld joint W2-13 and MK#102A-3 weld joint W2-13 both have pending 1st time UT repairs.

Caltrans Status and Production Tracking:
QA Inspector Brannon also updated Caltrans status and production tracking logs for tracking of check samples, procedure qualification record (PQR), critical weld repairs (CWR), non-critical welding repairs (WRR), completed and in process welding, QC/QA non-destructive testing.

Material, Equipment, and Labor Tracking:
QA Inspector Brannon performed a verification of personnel at OIW. QA Inspector Brannon observed 2 Supervisor, 2 Quality Control and 4 production personnel on this date.

The following digital photograph below illustrates observation of the activities being performed.

Summary of Conversations:
As noted within this reprot.
Comments
This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Brannon,Sherri	Quality Assurance Inspector
Reviewed By:	Adame,Joe	QA Reviewer